Other analytical transport models such as those cited above can be used to model contaminant transport to the surface water body and the mixing formula provided below can be used to obtain a surface water contaminant concentration.

Here is the surface water mixing formula $C_{sw} = C_{gs}[Q_{gw}/(Q_{gw} + Q_{sw})]$

C_{sw} = surface water contaminant concentration

C_{gs} = groundwater contaminant concentration at the groundwater/surface water boundary

Q_{gw} = groundwater flux into surface water body (can be approximated by KA(dh/dx) where:

K = hydraulic conductivity;

A = cross sectional area of groundwater discharge along streambank; and

(dh/dx) = hydraulic gradient)

Q_{sw} = 7Q10 Flow

If the surface water body does not have a perennial flow, mixing cannot be considered and a 7Q10 of zero must be used.

4. Public Notice

Pursuant to 15A NCAC 2L .0115(f) and .0115(g), and as described in 15A NCAC 2L .0106(c) and .0114(a), responsible parties of high and intermediate risk releases must submit a summary of the CSA report to the local Health Director and the chief administrative officer of the political jurisdiction in which the groundwater contamination occurred (See Section 4.6).

C. Soil Assessment (for low risk sites only)

A Soil Assessment must be performed by the responsible party for releases that the Department classifies as a low risk to human health and the environment, based on a review of the LSA report. The objective in performing a Soil Assessment is to characterize the cause, significance and extent of contamination resulting from a petroleum UST system release. In characterizing the extent of soil contamination, the responsible party must define both the vertical and horizontal extent of soil contamination. Guidelines for completing a Soil Assessment are presented below. Specific reporting requirements for the Soil Assessment Report are provided in Appendix B, Report 8.

For the Soil Assessment, the responsible party must provide a detailed history of all UST systems at the site. The detailed history is to include the location, use, ownership and operation of all current and previous UST systems at the site. In addition, the responsible party should verify the source(s) of the release, including any on-site non-petroleum and non-UST sources of contamination.

As part of the Soil Assessment, update the exposure assessment information that is provided in the LSA report pertaining to land use and potentially affected property owners and occupants. Soil samples must be obtained to delineate the horizontal and vertical extent of contamination. All samples must be collected and analyzed in accordance with methods and procedures specified in Section 6.0. A comparison should be made of the sample results to the applicable cleanup standards. In addition, the site geology should be characterized based on information obtained during the advancement of soil borings.